

(4) This monograph is based on a close examination of all the material of the genus contained in the principal European Herbaria, and the exhaustive nature of Mr. Wernham's work may be judged from the fact that he adds no fewer than sixty-two new species to the forty-four already known. All the species are briefly but concisely described, and there is an extremely useful key for their ready determination. The monograph, which is illustrated by twelve carefully lithographed plates, will be indispensable to all students of the Rubiaceæ and to curators of Herbaria who desire to have their material correctly labelled.

(5) In this memoir Prof. Koehler continues his valuable studies on the Echinodermata in the collections of the Indian Museum, and publishes the results of his examination of the Irregular Echinoids of the Spatangus group. Two genera and seventeen species are described as new to science. Several of the species had been given provisional new names by Anderson, and though they were unaccompanied by any kind of description, Prof. Koehler has, with characteristic courtesy, retained Anderson's names in all cases. The descriptions appear very clear and detailed, and are throughout accompanied by a wealth of illustrations. The work maintains the high standard set by Prof. Koehler in the six earlier memoirs in this series, of which he is the sole or part author.

W. M. T.

OUR BOOKSHELF.

A Manual for Masons, Bricklayers, Concrete Workers and Plasterers. By Prof. J. A. van der Kloes. Revised and adapted to the requirements of British and American readers by Alfred B. Searle. Pp. xii + 235. (London: J. and A. Churchill, 1914.) Price 8s. 6d. net.

In this book will be found much useful information regarding the composition of various kinds of mortar, together with the effects of mortar of unsuitable composition. These subjects occupy practically the whole volume. The book opens with some physical and chemical principles, among which we note that the scaling of stone, brick and concrete structures is ascribed to osmotic pressure caused by the expansion of material in the pores. A valuable feature of the book is the number of photographs included showing defects in existing continental structures—similar defects may be found in many British buildings.

In the section dealing with dams it is pointed out that engineers generally have confined themselves to the results of tensile and crushing tests of the mortar employed, notwithstanding the fact that a mortar strong under test may become the cause of disintegration of the structure in consequence of its bad composition. Many of the dams built in the last half-century will be found to be

leaking if they are examined carefully. The author gives photographs showing the defects in the Gileppe dam, near Verviers, in Belgium, and quotes it as the worst example known to him. This dam was built in 1870-75 and has a height of 157 ft.; the thickness at the base is about 220 ft. and the breadth at the top is 50 ft. Sandstone and limestone from neighbouring quarries were used and the mortar was composed of five measures of hydraulic lime from Tournai, one measure of trass and four measures of sand, so that four to five times too much lime was used. The leakage at first amounted to 5570 gallons a day, and after four years the outside of the dam remained permanently wet. In May, 1911, the upper part of the dam showed dry incrustations, lower down the masonry was wet under the incrustations, and at the lowest part of the steps the dripping water was like a small waterfall.

We have probably quoted enough from the book to indicate the value of its contents to the engineer, architect, builder, and student; it is, however, a matter of regret from the student's point of view that the price of this useful volume has been fixed rather high.

The History and Economics of Indian Famines.

By A. Loveday. Pp. x + 163. (London: G. Bell and Sons, Ltd, 1914.) Price 2s. 6d. net.

The literature of Indian famines is so extensive that Mr. Loveday has had no light task in compiling the main historical facts and formulating the conclusions contained in this enlarged prize essay. Famines are rightly regarded as natural calamities, caused by failures or irregularities of the monsoons. Indian historians record their occurrence under native rule. The policy of the native rulers was rather prevention (by wrong methods) than cure: the mortality was fearful. Under the East India Company the famine policy was uncertain and unsuccessful, the systems of famine-relief were inadequate, the economic conditions different from the present. After 1858 the Government adopted, in the great famine of 1860 in Upper India, a famine relief organisation which has been greatly developed but never abandoned. The Orissa failure, 1866-7; the excessive expenditure accompanying the success in Bengal, 1874; the great mortality in Madras, 1877, led to the Famine Commission of 1878-80. Since then Famine Codes have been framed for famine-relief administration. With subsequent experience, mistakes have been corrected and the Codes perfected, so that now famines—of work rather than of food—are managed effectively. Mr. Loveday describes briefly the various stages of policy, e.g. importation, emigration, poor houses, etc., etc.; the later tendency has been to greater generosity and decentralisation. Irrigation works (when possible) to grow food are being extended; and railways to transport it to distressed tracts. Meanwhile the economic condition of India is varying, changes must be recognised, protective measures and the wider economic problems—indebtedness, agriculture, cooperative societies, etc., etc.—must be considered together. B.